

Appl. No. 10/627,609
Amendment dated: April 26, 2005
Reply to OA of: January 31, 2005

REMARKS

Applicants appreciate the indication of allowable subject matter in that claims 6, 10, 17, 21 and 27-28 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The claims have been amended to overcome the objections to the claims as noted in the Official Action. Accordingly, it is most respectfully requested that these objections be withdrawn.

Applicants have also amended the specification and drawings to more particularly define the invention taking into consideration the outstanding Official Action. The specification has been amended at page 5 to change "430a and 430b" to "450a and 450b" as suggested in the Official Action.

The claims have been amended where appropriate in that "traces" has been replaced with "trace" in both instances. Applicants most respectfully submit that all the claims now present in the application are in full compliance with 35 U.S.C. §112 and are clearly patentable over the references of record.

The drawing objection of Fig. 4A-4B as failing to comply with 37 CFR 1.84(p)(5) because they do not include the reference signs "442 inner wall" has been obviated by the corrected drawing found at the end of this paper clearly marked "Replacement Sheet". Accordingly, it is most respectfully requested that this objection be withdrawn.

The rejection of claims 1-5, 7-9 and 11-12 under 35 U.S.C. §102(e) as being anticipated by Lubert et al. has been carefully considered but is most respectfully traversed.

Applicant wishes to direct the Examiner's attention to MPEP § 2131 which states that to anticipate a claim, the reference must teach every element of the claim.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*,

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868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed.Cir. 1990).

In the presently claimed invention, an insulator is formed in the via to electrically isolate from each of the metal layers. This is a claim limitation which cannot be ignored. In accordance with the presently claimed invention, each separated metal layer in the same via can be provided to electrically connect its corresponding conductive trace layer. Consequently, the number of the vias in the present invention will be reduced so as to increase the density of the conductive traced layout. Besides, it can also reduce the bent portions of the conductive traces so as to reduce the distance of signal transmission.

On the contrary, in the Lubert et al. reference, there is no teaching that the right part and the left part of the metallized layer 29, covering on the internal wall 9 of the opening 5 is electrically isolated from each other, see FIG. 9 in this regard. Applicants have reviewed the entire specification and can find no description of this arrangement. Clearly, there is no anticipation.

Moreover, it would be clear to one of ordinary skill in the art to which the invention pertains that the Lubert et al. reference discloses that it provides a metallized layer 29 on the surfaces 21 and 23 of base member 13, and on internal wall 9 of opening 5. This conductive layer 29 substantially covers the entire base member 13 and hole 5 [col. 6, lines 24-28].

Further, because figure 9 is a cross sectional view of the base member 13 at a vertical plane, the conductive layer 29 in figure 9 would look isolated. In view of the fact that the specification is completely silent as to this feature (right part and the left part of the metallized layer 29 which covers on the internal wall 9 of the opening 5 electrically isolate from each other), it is more reasonable to expect as would be appreciated by one of ordinary skill in the art that the two parts of the metallized layer 29 on internal

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wall 9 electrically connect with each other rather than two parts electrically isolate from each other. Based on the above analysis, the rejection of the claims under 35 USC 102 should be withdrawn.

The rejection of claims 13-16, 18-20 and 22-26 under 35 U.S.C. 103(a) as being unpatentable over Lubert et al. has been carefully considered but is most respectfully traversed.

Applicants wish to direct the Examiner's attention to the basic requirements of a prima facie case of obviousness as set forth in the MPEP § 2143. This section states that to establish a prima facie case of obviousness, three basic criteria first must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Section 2143.03 states that all claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

The comments in the Official Action concerning the obviousness rejection has been carefully considered but are most respectfully traversed. Furthermore, in the Lubert et al. reference, there is no teaching that cutting the hole 5 to form a cutting street to separate the metallized layer 29 into a plurality of separated metallized layers 29 as urged in the Official Action. The Lubert et al. reference does not disclose that filling an insulator in the cutting street, neither. At column 7 cited in the Official Action,

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line 10 simply mentions the need to protect the metallized layer on the internal wall of the opening. It is therefore necessary to substantially fill the openings with a permanent material to protect the internal wall of the opening. This in no way suggest the presently claimed process. The necessary motivation must be found in the prior art and not in Applicants' specification. In re Fritch, 23 USPQ 1780, 1784(Fed Cir. 1992) ("It is impermissible to engage in hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps.). Accordingly, it is most respectfully requested that this rejection be withdrawn.

In view of the above comments and further amendments to the specification, drawings and claims, favorable reconsideration and allowance of all of the claims now present in the application are most respectfully requested.

Respectfully submitted,

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Amendments to the Drawings:

Please replace the original drawing sheet containing Fig. 4A and Fig. 4B with the amended drawings which now contain the reference sign 442 and are found at the end of this paper clearly marked "Replacement Sheet".